

VI. CLAIMS

What is claimed is:

1. An efficient method for generating and printing customized documents in a system having a client communicable with a network and a server communicable with the network, the method comprising the steps of:

displaying an interactive form on the client;

5 entering user information onto the interactive form;

transmitting the user-defined information from the client to the server over the network;

obtaining default document parameters from a template file;

formulating instructions to a page description file builder based upon the default document parameters and the user-defined information;

10 building a page description file based upon said instructions;

transmitting the page description file to the client;

rendering the page description file for the first time at the client.

2. An efficient method for generating and printing customized documents as defined in claim 1, wherein the step of obtaining default document parameters from a template file comprises parsing the template file.

3. An efficient method for generating and printing customized documents as defined in claim 1, wherein template files comprise Extensible Markup Language (XML) statements.
4. An efficient method for generating and printing customized documents as defined in claim 1, wherein the step of transmitting user-defined information comprises transmitting information in Hypertext Markup Language (HTML) code, with an option value format having a structure comprising a token, a directive and a parameter.
5. An efficient method for generating and printing customized documents as defined in claim 1, wherein the method further comprises the step of printing the page description file on a client-controlled printer.
6. An efficient method for generating and printing customized documents as defined in claim 5, wherein client-controlled printer is a commercial printer.
7. An efficient method for generating and printing customized documents as defined in claim 5, wherein the client-controlled printer is a laser printer, inkjet printer, bubblejet printer.
8. An efficient method for generating and printing customized documents as defined in claim 1, wherein the step of building a page description file comprises building a Portable Document Format (PDF) file.
9. An efficient method for generating and printing customized documents as defined in claim 1, wherein the client is a desktop computer.
10. An efficient method for generating and printing customized documents as defined in claim 1, wherein client is a Personal Digital Assistant (pda).

11. An efficient method for generating and printing customized documents as defined in claim 1, wherein the network is an intranet.

12. An efficient method for generating and printing customized documents as defined in claim 1, wherein the network is a wireless network.

13. An efficient method for generating and printing customized documents as defined in claim 1, wherein the step of formulating instructions comprises formulating instructions in accordance with an application programming interface (API).

14. An efficient method for generating and printing customized documents as defined in claim 1, wherein a java servlet performs the step of formulating instructions.

15. An efficient method for generating and printing customized documents as defined in claim 1, wherein a Hypertext Markup Language (HTML) browser on the client performs the step of transmitting the user-defined information from the client to the server.

16. An efficient method for generating and printing customized documents as defined in claim 1, wherein the method further comprises the step of generating the template with a Graphical User Interface (GUI).

17. An efficient method for generating customized electronic documents as defined in claim 16, wherein the step of generating said template with a graphical user interface (GUI) comprises defining default values for at least one of the following: font type, font color, font size, background color, location of text on the document, location of graphics on the document, size of the document, shape of the document.

18. An efficient method for generating customized electronic documents as defined in claim 16, wherein the step of generating said template with a graphical user interface (GUI) comprises creating a graphical visual representation of the template with the GUI and saving the template as an output data file.

19. An efficient method for generating and printing customized documents as defined in claim 1, wherein the method further comprises the step of storing the template in memory on the server.

20. An efficient method for generating and printing customized documents as defined in claim 1, wherein the method further comprises the step of storing the template in memory as one or more Extensible Markup Language (XML) statements on the server.

21. An efficient method for generating and printing customized documents as defined in claim 1, wherein the user information comprises at least one of the following types of information: name, company, address, telephone number, facsimile number, e-mail address, text message, selection of a pre-defined graphic, type of document to be generated.

22. An efficient method for generating and printing customized electronic documents as defined in claim 1, wherein the user information comprises at least one of the following types of information: font type, font color, font size, location of text on the document, and location of graphics on the document.

23. An efficient method for generating and printing customized electronic documents as defined in claim 1, wherein the method further comprises the step of determining characteristics of a printer to be used to print a document described by the page description file.

24. An efficient method for generating and printing customized electronic documents as defined in claim 23, wherein the method further comprises optimizing the page description file for compatibility with the printer.

25. An efficient method for generating and printing customized electronic documents as defined in claim 23, wherein the method further comprises the step of printing the optimized page description file on the client-controlled printer.

26. An efficient method for generating customized electronic documents for printing, comprising:

receiving via an online connection first information from a user, said first information including an identification of a document template;

receiving via an online connection second information from a user, said second information including document customization information and document personalization information;

obtaining a document template corresponding to said first information, said document template defining default attributes of a document to be printed;

10 formulating a set of instructions to a page description file builder, said instructions instructing the page description file builder to build a document based upon a combination of said default attributes of the document to be printed, said document customization information, and said document personalization information;

building a page description file from said set of instructions;

15 transmitting said page description file to a remote site for printing at a printer;
wherein the steps of formulating a set of instructions and building a page description file
are accomplished without rendering a graphic.

27. An efficient method for generating customized electronic documents as defined in
claim 26, wherein said document personalization information comprises at least one of the
following types of information: name, company, address, telephone number, facsimile number,
e-mail address, text message, and selection of a pre-defined graphic.

28. An efficient method for generating customized electronic documents as defined in
claim 26, wherein said document customization information comprises at least one of the
following types of information: font type, font color, font size, location of text on the document,
and location of at least one graphic on the document.

29. An efficient method for generating customized electronic documents as defined in
claim 26, wherein the step of building a page description file comprises building a Portable
Document Format (PDF) file.

30. An efficient method for generating customized electronic documents as defined in
claim 26, wherein the method comprises the additional step of generating said template with a
Graphical User Interface (GUI) and storing said template.

31. An efficient method for generating customized electronic documents as defined in
claim 30, wherein the step of generating said template with a graphical user interface (GUI)
comprises defining default values for at least one of the following: font type, font color, font

size, background color, location of text on the document, location of graphics on the document,
5 size of the document, shape of the document.

32. An efficient method for generating customized electronic documents as defined in claim 30, wherein the step of generating said template with a graphical user interface (GUI) comprises creating a graphical visual representation of the template with the GUI and saving the template as an output data file.

33. An efficient method for generating customized electronic documents as defined in claim 26, wherein said template is an Extensible Markup Language (XML) file.

34. An efficient method for generating customized electronic documents as defined in claim 26, wherein second user information is received in the form of pseudo-Extensible Markup Language (pseudo-XML) code, wherein said pseudo-XML code comprises HTML code that emulates XML code.

35. An efficient method as defined in claim 34, wherein said pseudo-XML code has a format comprising a token, a directive and a parameter.

36. An efficient method for generating customized electronic documents as defined in claim 26, wherein said instructions comprise an Application Program Interface (API).

37. An efficient method for generating customized electronic documents as defined in claim 26, wherein said step of formulating instructions further comprises parsing the template into information packets.

38. An efficient method for generating customized electronic documents as defined in claim 26, wherein said step of formulating instructions further comprises overriding default template values with customized, user-defined values provided in said second information.

39. An efficient method for generating customized electronic documents as defined in claim 26, wherein said step of formulating a set of instructions comprises reading said template, reading said second information, creating information packets from said template and said second information, and reconciling the information packets into instructions to said page 5 description file builder.

40. An efficient method for generating customized electronic documents as defined in claim 26, wherein said step of transmitting said page description file to a client for printing at a client-controlled printer comprises transmitting said page description file to a personal computer over a network.

41. An efficient method for generating and printing customized electronic documents as defined in claim 26, wherein the method further comprises the step of determining characteristics of a client-controlled printer.

42. An efficient method for generating and printing customized electronic documents as defined in claim 41, wherein the method further comprises optimizing the page description file for compatibility with the client-controlled printer.

43. An efficient method for generating and printing customized electronic documents as defined in claim 42, wherein the method further comprises the step of printing the optimized page description file on the client-controlled printer.

44. An efficient method for generating and printing customized electronic documents as defined in claim 26, wherein the step of transmitting the page description file to a remote site and printing at a printer comprises transmitting the page description file to the client and printing the page description file at a client-controlled printer.

45. An efficient method for generating and printing customized electronic documents as defined in claim 26, wherein the step of transmitting the page description file comprises transmitting the page description file via e-mail or FTP.

46. A processing server programmed to:

receive information via a network from a user, the information including document customization information and document personalization information;

obtain a document template that defines default attributes of a document to be printed;

formulate a set of instructions to a page description file builder, said instructions instructing the page description file builder to build a document based upon a combination of said default attributes of the document to be printed, said document customization information, and said document personalization information;

build a page description file from said set of instructions with said page description file

10 builder;

transmit said page description file to a recipient;

wherein the server is programmed to build the page description file without rendering a graphic.

47. A processing server as defined in claim 46, wherein said network is an intranet.
48. A processing server as defined in claim 46, wherein said document template is resident in memory on said server.
49. A processing server as defined in claim 46, wherein said document template is an Extensible Markup Language (XML) file.
50. A processing server as defined in claim 46, wherein said document template is generated by a Graphical User Interface (GUI).
51. A processing server as defined in claim 46, wherein when formulating set of instructions, the server parses the template files.
52. A processing server as defined in claim 46, wherein the recipient is a personal computer.
53. A processing server as defined in claim 46, wherein said set of instructions conforms to an Application Program Interface (API).
54. A processing server as defined in claim 46 that is further programmed to:
determine characteristics of a printer onto which a document will be printed; and
customize said page description file for the printer.
55. A processing server as defined in claim 46, wherein said printer is a client-controlled printer.

56. A processing server as defined in claim 46, wherein the server is programmed to transmit the page description file via e-mail or FTP.

57. A system for generating customized electronic documents for printing, comprising:

client means for transmitting document customization information and document personalization information;

server means for receiving document customization information and document

5 personalization information;

means for retrieving default attributes of a document to be printed;

means for formulating a set of instructions for a page description file builder;

means for building a page description file from said set of instructions with said page description file builder.

58. A system for generating customized electronic documents for printing as defined in claim 57, wherein said means for building a page description file from said set of instructions comprises a PDF file generator.

59. A system for generating customized electronic documents for printing as defined in claim 57, wherein said means for formulating a set of instructions comprises a java servlet.

60. A system for generating customized electronic documents for printing as defined in claim 57, wherein said means for formulating a set of instructions comprises means for parsing a template file.

61. A system for generating customized electronic documents for printing as defined in claim 57, wherein said client means comprises pseudo-Extensible Markup Language (pseudo-XML) code written in Hypertext Markup Language (HTML) that transmits user customization and personalization information in the form of data having a format comprising a token, a 5 directive and a parameter.

62. A system for generating customized electronic documents for printing as defined in claim 57, wherein said system further comprises means for adapting said page description file for printing on a particular printer.

63. An efficient method for generating customized documents in a system having a client communicable with a network and a server communicable with the network, the method comprising the steps of:

displaying an interactive form on the client;

5 entering user information onto the interactive form;

transmitting the user-defined information from the client to the server over the network;

obtaining default document parameters from a template file;

formulating instructions to a page description file builder based upon the default

document parameters and the user-defined information;

10 building a page description file based upon said instructions;

transmitting the page description file to a remote site.

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64. An efficient method as defined in claim 65 in which said remote site is the client.

65. An efficient method as defined in claim 66 in which said remote site is a commercial printing facility.

66. An efficient method as defined in claim 65 in which the step of transmitting the page description file to a remote site comprises transmitting the page description file via e-mail or FTP.

67. An efficient method as defined in claim 65, the method further comprising the steps of:

providing printable media to an end-user for a fee;

providing the end-user with access to the server for no additional fee; and

printing said page description file on said printable media.

68. An efficient method as defined in claim 65, wherein the client communicates with the server through a third-party internet web site.

69. A method for emulating Extensible Markup Language (XML) code with Hypertext Markup Language (HTML) code, the method comprising the step of transmitting data in an HTML format having a syntax comprising a token, a directive and a parameter.

70. A method for emulating Extensible Markup Language (XML) code as described in claim 71, wherein the step of transmitting data in an HTML format comprises transmitting data from a client to a server.

71. An efficient method for generating and printing customized documents in a system having a client communicable with a network and a server communicable with the network, the method comprising the steps of:

displaying an interactive form on the client;

5 entering user information onto the interactive form;

transmitting the user-defined information from the client to the server over the network;

obtaining default document parameters from a template file;

100 formulating instructions to a graphic file builder based upon the default document parameters and the user-defined information;

building a graphic file based upon said instructions;

transmitting the graphic file to the client;

rendering the graphic file for the first time at the client.

72. An efficient method for generating and printing customized documents in a system

15 having any combination of clients communicable with a network and/or servers communicable with the network, the method comprising the steps of:

displaying an interactive form;

entering user information onto the interactive form;

transmitting the user-defined information over the network;

20 obtaining default document parameters from a template file;

 formulating instructions to a page description file builder based upon the default document parameters and the user-defined information;

 building a page description file based upon said instructions;

 transmitting the page description file;

25 rendering the page description file.

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73. A method as described in claim 74, wherein the step of rendering the page description file is performed on a client.

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